



ADOPTED

BOARD OF SUPERVISORS
COUNTY OF LOS ANGELES

24 April 2, 2013

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SACHI A. HAMAI
EXECUTIVE OFFICER

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community and university partners.*



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April 02, 2013

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012

Dear Supervisors:

**AUTHORIZE PURCHASE OF HARDWARE FOR THE TWO DEPARTMENT
OF HEALTH SERVICES' DATA CENTERS
(ALL SUPERVISORIAL DISTRICTS)
(3 VOTES)**

**CIO RECOMMENDATION: APPROVE (X) APPROVE WITH MODIFICATION
()
DISAPPROVE ()**

SUBJECT

Authorize the purchase of hardware for the Department of Health Services' two Data Centers to support existing data repositories and the new Enterprise Patient Data Repository at Martin Luther-King, Jr. Multi-Service Ambulatory Care Center and LAC+USC Medical Center.

IT IS RECOMMENDED THAT THE BOARD:

Authorize the Internal Services Department (ISD), as the County's Purchasing Agent, to proceed with the Department's purchase of hardware for two Data Centers, with a total cost of approximately \$800,000. In accordance with County policy, Board approval is required to purchase capital assets that exceed the \$250,000 threshold established by the Board.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

Approval of this action will enable the purchase of the required Storage Area Network (SAN), additional blade servers, backup hardware, and storage hardware upgrades for the two Department of Health Services (DHS) Data Centers to: 1) support the current three main large DHS data repositories [the Enterprise Data Repository (EDR); the OMC/CHP Data Warehouse; and the Finance Medi-Cal Redesign (MCALRS)], which collects and stores up-to-date patient data from all DHS hospitals and other DHS affiliated facilities and organizations, and 2) support the future large data repository needs of a new Enterprise Patient Data Repository (EPDR), which will eventually consolidate the three existing data repositories into a single centralized Healthcare Data Warehouse Foundation, and includes the Electronic Health Record (EHR) information.

This hardware will also provide the latest infrastructure and tools to integrate, validate, and load source data from data sources. Currently, there is a significant amount of data residing on the three main data repositories generating data redundancy, placing a strain on disk storage, and resulting in system-wide reporting and analysis inefficiencies and inaccuracies.

In June, 2011, hardware, including a SAN, was purchased to support the existing EDR. Since then, the data infrastructure needs of the Department have changed with the addition of EPDR and EHR projects. The requested additional hardware will support the current three main DHS data repositories, as well as support the addition of these two major DHS projects.

Implementation of Strategic Plan Goals

The recommended action supports Goal 1, Operational Effectiveness, of the County's Strategic Plan.

FISCAL IMPACT/FINANCING

The total one-time cost for the hardware is approximately \$800,000 and includes a standard manufacturer's warranty of three years and 24/7 on-site support. The details comprising the estimated total costs are shown in Attachment II.

Funding is included in DHS' Fiscal Year (FY) 2012-13 Final Budget.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

On October 16, 2001, the Board approved the classification categories for fixed assets and new requirements for major fixed assets (now referred to as capital assets) acquisitions requiring County departments to obtain Board approval to purchase or finance equipment with a unit cost of \$250,000 or greater prior to submitting their request to ISD.

The County's Chief Information Officer recommends approval of this purchase and that Office's Analysis is attached (Attachment I).

CONTRACTING PROCESS

This is a commodity purchase under the statutory authority of the County's Purchasing Agent. This acquisition will be competitively bid by the Purchasing Agent in accordance with the standard County purchasing policies and procedures established by ISD.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

Approval of the recommendation will ensure the necessary hardware is purchased to support current and future DHS projects, including the EPDR and EHR.

Respectfully submitted,



Mitchell H. Katz, M.D.
Director



RICHARD SANCHEZ
Chief Information Officer

MHK:RS:lr

Enclosures

c: Chief Executive Office
County Counsel
Executive Office, Board of Supervisors
Internal Services Department



RICHARD SANCHEZ
CHIEF INFORMATION OFFICER

Office of the CIO
CIO Analysis

NUMBER: CA 13-03	DATE: 1/28/2013
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SUBJECT:

AUTHORIZE PURCHASE OF THE HARDWARE FOR THE TWO DEPARTMENT OF HEALTH SERVICES' DATA CENTERS

RECOMMENDATION:

☒ Approve ☐ Approve with Modification ☐ Disapprove

CONTRACT TYPE:

☒ New Contract ☐ Sole Source
☐ Amendment to Contract #: Enter contract #. ☐ Other: Describe contract type.

CONTRACT COMPONENTS:

☐ Software ☒ Hardware
☐ Telecommunications ☒ Professional Services

SUMMARY:

Department Executive Sponsor: Anish Mahajan, MS, MPH, M.D.

Description: Department of Health Services (DHS) is requesting authorization for the Internal Services Department (ISD) to procure the purchase of hardware and associated services to be implemented in DHS' two Data Centers, at Martin Luther-King (MLK) and LAC+USC. Acquisition of this hardware will support the existing data repositories plus the implementation of the new Enterprise Patient Data Repository (EPDR).

Contract Amount: \$799,608.41

Funding Source: DHS FY 12-13 Operating Budget

☒ Legislative or Regulatory Mandate ☐ Subvened/Grant Funded: Enter %

**Strategic and
Business Analysis**

PROJECT GOALS AND OBJECTIVES:

The EPDR project will establish the following objectives:

- 1) Analyze the existing three Data Warehouses (Enterprise Data Repository (EDR); Financial Medi-Cal Redesign Databases (MCALRS); and OMC/CHP Data Warehouse) and the supporting information flows and business processes;
- 2) Convert into one centralized Oracle Healthcare Data Warehouse Foundation and Electronic Health Record (EHR) called Enterprise Patient Data Repository (EPDR);
- 3) Provide equipment to support P-14 requirements are met in time by December 31, 2013; and
- 4) Clean up data, as well as implement the latest processes to acquire consistent, integrated and meaningful data into the single EPDR Data Warehouse.

BUSINESS DRIVERS:

The key business drivers for the project are:

- 1) Improve patient care through the implementation of a centralized, standardized, enterprise-wide EPDR System that will ensure a consolidated view of the patients clinical, financial, and Payer data;
- 2) The P-14 requirements are met in a timely manner in order to avoid a \$1.5 billion waiver downfall; and
- 3) Healthcare Reform and EHR System implementation needs a more data enriched organization. The EPDR System is critical to align with these drivers.

PROJECT ORGANIZATION:

Dr. Anish Mahajan, Director of DHS System Planning, Improvement and Data Analytics, is the Project Executive Sponsor and Irene Dyer is the Project Director. Kevin Lynch, DHS CIO, is the IT lead working with Dr. Mahajan and Irene Dyer. DHS established initial governance comprised of clinical, financial, and technology teams that will be responsible for data remediation. The hardware installation and configuration will be executed by the Operations and Infrastructure groups of DHS.

PERFORMANCE METRICS:

The proposed EPDR service levels and objectives are described below:

Business hours for service support:

- Service Desk/Incident Management 24 hours a day, 7 days a week; and
- Problem Management 24 hours a day, 7 days a week.

STRATEGIC AND BUSINESS ALIGNMENT:

The project supports Goal 1: Operational Effectiveness, Fiscal Sustainability, and Integrated Services Delivery of the County's Strategic Plan.

PROJECT APPROACH:

DHS is acquiring, upgrading, and provisioning data center hardware – EMC storage upgrade and servers, to be installed in the Martin Luther King Multi-Ambulatory Care Center (MLK) – Data Center and a replicated Disaster Recovery (DR) site at LAC+USC Medical Center, (LAC+USC). The new hardware will be implemented and thoroughly tested by the infrastructure team, along with the vendor's professional services team.

ALTERNATIVES ANALYZED:

None. The server blades and storage will be an expansion to an existing DHS infrastructure at MLK and LAC+USC.

Technical Analysis	<p>ANALYSIS OF PROPOSED IT SOLUTION:</p> <p>The requested servers and storage will support DHS' efforts to consolidate three data warehouses and to provide high availability and disaster recovery. The combination of redundant and inaccurate data contained in the existing three data warehouses cause reporting errors that can impact both clinical operations and State funding. The design of the integrated data model will eliminate the redundancy of data and improve data quality. A summary of equipment included in this purchase is as follows:</p> <p>MLK:</p> <ul style="list-style-type: none"> • 64 additional Terabytes to be added to existing VNX 5300 SAN; • Three UCS B200 M2 Blade Servers; and • 30 additional Terabytes of backup storage. <p>LAC+USC (HA & DR site):</p> <ul style="list-style-type: none"> • Additional VNX 5300 SAN configured with 70 Terabytes of storage; and • 30 additional Terabyte of backup storage. 														
Financial Analysis	<p>BUDGET:</p> <p>Contract costs</p> <p>One-time costs:</p> <table> <tr> <td>Hardware</td><td>\$ 548,470.45</td></tr> <tr> <td>Software</td><td>\$ 57,615.46</td></tr> <tr> <td>Services</td><td>\$ 68,000.00</td></tr> </table> <p>Ongoing costs for the 4-1/2 year term extension:</p> <table> <tr> <td>Hardware</td><td>\$ 00</td></tr> <tr> <td>Software</td><td>\$ 00</td></tr> <tr> <td>Support Services</td><td>\$ 77,531.34</td></tr> <tr> <td>Taxes.....</td><td>\$ 47,991.16</td></tr> </table> <p>Sub-total Contract Costs: \$ 799,608.41</p> <p>Other County costs: N/A</p> <p>Total one-time costs: \$ 799,608.41</p> <p>Note: This hardware purchase is part of the EPDR initiative that will require the purchase of relevant data model, data analysis, design, cleansing, and remediation as part of their products and services. Subsequent Board letters will be submitted for consultant services and software licenses to support full EPDR implementation.</p>	Hardware	\$ 548,470.45	Software	\$ 57,615.46	Services	\$ 68,000.00	Hardware	\$ 00	Software	\$ 00	Support Services	\$ 77,531.34	Taxes.....	\$ 47,991.16
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Risk Analysis

RISK MITIGATION:

1. To mitigate service disruption resulting from a system outage or service interruption event, and to minimize the impact of data loss and data corruption, DHS will implement the following :
 - Backup and Recovery - The team will perform full backups of the EPDR environment nightly. As part of the backup and restore strategy, backups will be tested by restoring a copy of the database onto a test system. The backup and restore manual will be created to document the location of the backups, backup device name, and the backup and restoration steps.
 - Disaster Recovery - The team will implement technologies, such as Oracle Data Guard and EMC Recovery Point to allow EPDR data replication from the MLK Data Center to the LAC+USC Data Center. In the event of service interruption at the primary site, the capability to quickly switch over to the LAC+USC Data Center will be enabled, allowing mission EPDR critical operation to resume.
2. The Chief Information Security Officer (CISO) reviewed the Purchase and did not identify any IT security or privacy related issues.

CIO Approval

PREPARED BY:



Sanmay Mukhopadhyay, Sr. Associate CIO

2/12/13

Date

APPROVED:



Richard Sanchez, County CIO

2-14-13

Date

Please contact the Office of the CIO (213.253.5600 or info@cio.lacounty.gov) for questions concerning this CIO Analysis. This document is also available online at <http://ciointranet.lacounty.gov/>

COUNTY OF LOS ANGELES – DEPARTMENT OF HEALTH SERVICES

STORAGE AREA NETWORK, BLADE SERVERS, BACKUP HARDWARE, AND
HARDWARE UPGRADES COST DETAIL

Description	One-Time Cost
Hardware (EMC Storage Upgrade & Servers) Subtotal	\$548,470.45
Software Subtotal	\$57,615.46
Professional Services	\$68,000.00
Support	\$77,531.34
Sales Tax	\$47,991.16
Grand Total	\$799,608.41